

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

On page 3, please replace the paragraph beginning on line 9 with the following amended paragraph.

The present invention is directed to a novel composition and method of using the novel composition in cancer treatments, preferably to reduce the bone marrow suppression side effect of such treatments. The novel composition is made of geranium oil and extractions from the root of Sophora plants, preferably ~~Sophora tonkinesis~~ Sophora tonkinensis, also known as *Sophora subprostrata*, (referred to herein as ~~Sophora tonkinesis~~ Sophora tonkinensis). The above "geranium oil" and "extractions from the root of Sophora plants" preferably refer to the main ingredients directly extracted from the oil and root respectively, but also includes main ingredients that are chemically synthesized or otherwise provided. The herbal composition can take on many forms e.g., powders, oil capsules, tablets, pills, liquid, syrup or pastes. The herbal composition can made into and ingested as a food additive, dietary supplement, health food, decoction soup, or any other edible form. The herbal composition can be administered via various routes, i.e. oral, intravenous, or intraperitoneal, in specific dosages to mammalian animals undergoing chemotherapy or radiation therapy. For administration, the composition can be obtained by preparation, purchase, or any other means so one is in possession of the composition and administered before, during and after the cancer treatments.

On page 4, please replace the paragraph beginning on line 6 with the following paragraph:

The present invention relates to a novel composition comprising geranium oil and extractions from the root of Sophora plants, preferably ~~Sophora tonkinesis~~ Sophora tonkinensis, and method of using the novel composition as a supporting drug or supplement in cancer treatments, preferably to reduce the bone marrow suppression side effect occurring in most of such treatments.

On page 5, please replace the paragraph beginning on line 2 with the following paragraph:

2. ~~Sophora tonkinesis~~ Sophora tonkinensis

On page 5, please replace the paragraph beginning on line 3 with the following paragraph:

The root of ~~Sophora tonkinesis~~ Sophora tonkinensis takes on a long curved tubular form with branches and is typically about 0.3-1.5 centimeters in diameter. The root is hardened and difficult to break. Its surface color ranges from grayish brown to suntan brown with longitudinal wrinkles and holes. The root has a bean scent and is extremely bitter. It is grown mainly in parts of China, i.e. the Guangdong province, Guangxi province, Guizhou province, Yunan province, and Jiangxi province.

On page 5, please replace the paragraph beginning on line 9 with the following paragraph:

The root contains 0.93% of alkaloids, of which 0.52% is matrine and 0.35% is oxymatrine. The other alkaloids identified in the root of ~~Sephora tonkinesis~~ Sophora tonkinensis are anagryne, methylcytisine, cytosine, sophocarpine, sophocarpine N-oxide, sophoramine, and sophoranol. The flavonic compounds identified in the root are sophoranone, sophoradin, sophoranochromene, sophoradochromene, pterocarpine, genistein, maackian, trifolirhizin, sitosterol, lu-peol, and a group of alkyl alcohol ester.

On page 5, please replace the paragraph beginning on line 15 with the following paragraph:

The principal alkaloid constituents of ~~Sephora tonkinesis~~ Sophora tonkinensis are also found in ~~Sephora alopecuroides~~ Sophora alopecuroides, *Sophora moorcroftiana*, and *Euchresta strigillosa*.

On page 5, please replace the paragraph beginning on line 27 with the following paragraph:

The composition can be formed into powders (composition powders) through the following steps. First, geranium oil and the root of ~~Sephora tonkinesis~~ Sophora tonkinensis are prepared separately. β -cyclodextrin is added to geranium oil to prevent evaporation, and excipients are added subsequently to form geranium oil powders. The geranium oil and the excipients are about 31% and 62% by weight, respectively, of the geranium oil powders. Next, the root of ~~Sephora tonkinesis~~ Sophora tonkinensis is cut

into thin pieces and then ~~grounded~~ ground. About 250 grams of the ~~grounded~~ ground ~~Sophora tonkinesis~~ Sophora tonkinensis root is mixed with 3000 ml of water, about 12 times the weight of the ~~grounded~~ ground root. The mixture is then boiled in a steam distillation bottle to heat and reflux for about 1 hour. Afterwards; the scum on the surface of the liquid is removed, and the liquid is filtered through a 100 mesh screen. The filtered liquid is then concentrated and about 66 grams of solid extracts of ~~Sophora-tonkinesis~~ Sophora tonkinensis is obtained. Excipients are added to the solid extractions to form ~~Sophora-tonkinesis~~ Sophora tonkinensis root powders. The ~~Sophora-tonkinesis~~ Sophora tonkinensis extractions and the excipients are about 60% and 40% by weight, respectively, of the ~~Sophora-tonkinesis~~ Sophora tonkinensis powders. Subsequently, the geranium oil powders and the ~~Sophora-tonkinesis~~ Sophora tonkinensis root powders are mixed together with additional excipients to form the composition of the present invention into powder forms, wherein the geranium oil powders, ~~Sophora-tonkinesis~~ Sophora tonkinensis root powders, and the excipients are about 55.94%, 0.958%, and 43.102% by weight, respectively, of the composition powders. The weight ratio of geranium oil and extractions of ~~Sophora-tonkinesis~~ Sophora tonkinensis within the composition are about 30:1. The excipients to be used in the process to form powders can be starch, sugar spheres, fructose, sorbital crystalline etc. and those commonly used by one skilled in the art.

On page 6, please replace the paragraph beginning on line 19 with the following paragraph:

Alternatively, the geranium oil powders and the ~~Sophora tonkinesis~~ Sophora tonkinensis root powders can be mixed with glycerine and gelatin to form capsules. The composition can also be made into dietary supplement, health food (functional food), and food additives. One can also decoct the Pelargonium plant and Sophora roots to obtain a liquid form of the composition for direct oral intake as a medicine soup or for making into syrup or other forms of liquid composition. Sophora roots the Pelargonium plant can also be taken orally, in an edible form, separately at a timed interval.

On page 7, please replace the paragraph beginning on line 21 with the following paragraph:

As shown in the table below, 7 mg/mouse of test substance had the significant effect of increasing the number of red blood cells (RBC) and preventing the reduction of the number of WBC, LY, MO, and GR in mice injected with 5-Fu. The effect was more pronounced with the dosage of 7 mg/mouse. On day 10, the average WBC count of normal mice was $6.94 \pm 1.647 \times 10^3 \mu\text{l}$, and the mice treated with 5-Fu had an average WBC count of $4.17 \pm 0.677 \times 10^3 \mu\text{l}$. On the other hand, mice treated with 7 mg/mouse of test substance and 5-Fu had an average WBC count of $6.24 \pm 1.924 \times 10^3 \mu\text{l}$, showing only 25% of the bone marrow suppression effect of 5-Fu. Differential leukocyte count showed that the suppression effect with respect to lymphocytes in test animals treated with 7 mg/mouse ~~mous~~ of test substance and 5-Fu was only 12% of that of the test

animals treated with 5-Fu only. With respect to monocytes, the suppression effect in test animals treated with 7 mg/mouse of test substance and 5-Fu was only 21% of that of test animals treated with 5-Fu. With respect to granulocytes, the suppression effect in test animals treated with 7 mg/mouse of test substance and 5-Fu was 46% of that of test animals treated with 5-Fu. On day 14, the total leukocyte and differential leukocyte counts of mice treated with 7 mg/mouse of test substance and 5-Fu continued to increase to a higher level than that of mice treated with 5-Fu only.

Effect of 「geranium oil + ~~Sephora tonkinesis~~ Sophora tonkinensis extractions」 on the side effects of reduction in blood cell counts caused by 5-Fu-

	Normal	5-Fu	21 mg/mouse S. <u>tonkinesis S.</u> <u>tonkinensis/5-Fu</u>	7 mg/mouse S. <u>tonkinesis S.</u> <u>tonkinensis/5-Fu</u>
Day 10				
RBC (10 ⁶ /μl)	9.09 + 0.137	7.86 + 0.171	7.66 + 0.316	8.52 + 0.627*
PLT (10 ³ /μl)	990 + 65.7	2828 + 632.4	2441 + 441.4	2099 + 731.5
WBC (10 ³ /μl)	6.94 + 1.647	4.17 + 0.677	4.63 + 0.772	6.24 + 1.924*
LY (10 ³ /μl)	5.30 + 1.369	3.66 + 0.648	4.15 + 0.538	5.10 + 1.261*
MO (10 ³ /μl)	0.39 + 0.035	0.25 + 0.046	0.26 + 0.154	0.36 + 0.131*
GR (10 ³ /μl)	1.24 + 0.284	0.25 + 0.050	0.22 + 0.104	0.78 + 0.559*
Day 14				
RBC (10 ⁶ /μl)	9.76 + 0.269	8.09 + 0.331	8.19 + 0.160	8.23 + 0.326
PLT (10 ³ /μl)	985 + 216.5	2219 + 750.2	2461 + 195.4	2309 + 687.5
WBC (10 ³ /μl)	8.03 + 1.408	7.98 + 1.575	7.70 + 0.599	8.48 + 2.052
LY (10 ³ /μl)	6.53 + 1.470	5.75 + 0.880	6.10 + 0.397	6.56 + 1.591
MO (10 ³ /μl)	0.35 + 0.092	0.59 + 0.316	0.39 + 0.124	0.44 + 0.140
GR (10 ³ /μl)	1.15 + 0.243	1.65 + 0.756	1.21 + 0.353	1.47 + 0.560

- Results are expressed in mean ± standard deviation (mean + SD).
- The experimental group and the 5-Fu group are compared using Dunnett's t-test, "*" means p<0.05, "***" means p<0.01, and "****" means p<0.001.

On page 8, please replace the paragraph beginning on line 27 with the following paragraph:

The weight of mice treated with 7 mg/mouse and 21 mg/mouse decreased slightly, as the days progresses, as compared to the normal mice.

Effect of 「geranium oil + ~~Sephora tonkinesis~~ Sophora tonkinensis extractions」 on the side effects of weight change caused by 5-Fu

	Day -2	Day 0	Day 6	Day 10	Day 14
Normal control	20.3 + 1.90 (n=18)	21.6 + 1.85 (n=18)	23.1 + 1.94 ^a (n=18)	24.0 + 1.89 ^a (n=12)	24.6 + 2.21 (n=6)
5-Fu	20.7 + 0.90 (n=12)	22.0 + 0.93 (n=12)	21.9 + 1.20 ^{ab} (n=12)	22.3 + 1.53 ^b (n=12)	23.5 + 0.78 (n=6)
G-CSF/5-Fu	20.5 + 1.76 (n=12)	22.0 + 1.84 (n=12)	22.0 + 1.84 ^{ab} (n=12)	22.5 + 1.78 ^{ab} (n=12)	24.0 + 1.64 (n=6)
21 mg/mouse S. tonkinesis	19.6 + 1.42 (n=12)	21.2 + 1.38 (n=12)	21.4 + 1.71 ^b (n=12)	21.4 + 1.80 ^b (n=12)	22.3 + 1.57 (n=6)
<u>S.</u> <u>tonkinensis</u> /5-Fu					
7 mg/mouse S. tonkinesis	19.8 + 1.50 (n=12)	21.4 + 1.97 (n=12)	22.2 + 1.67 ^{ab} (n=12)	22.6 + 1.68 ^{ab} (n=12)	23.1 + 3.04 (n=6)

S.

tonkinensis/5-

Fu

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1. Results are expressed in mean \pm standard deviation (mean + SD).
 2. At the same moment in time, Duncan's statistical analysis is used among the groups.
- Different alphabets stands for significant differences ($p < 0.05$).

On page 10, please replace the paragraph beginning on line 24 with the following paragraph:

The composition of ~~Sephora tonkinesis~~ Sophora tonkinensis and geranium oil does in fact significantly reduces the bone marrow suppression effect of 5-Fu and is performing better even than the G-CSF treatment. The ability of the composition of the present invention to reduce bone marrow suppression effect makes it a good candidate as a supporting drug or supplement to be used in cancer treatments that induce bone marrow suppression. In particular, the composition of the present invention may be used with chemotherapy and or radiation therapy to increase the leukocyte count. For example, the composition of the present invention may be used with 5-Fu, doxorubincin and other chemotherapeutic agents just as Neupogen is also used with 5-Fu as well as doxorubincin and many other types of chemotherapy to stimulate the growth of neutrophils whose number is originally reduced by chemotherapy.